

Attorney Docket No.: **UT-0048**
Inventors: **Rao et al.**
Serial No.: **10/502,224**
Filing Date: **May 17, 2005**
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REMARKS

Claims 1-10 are pending in the instant application.

Claims 5-10 have been withdrawn from consideration by the Examiner. However, it has been acknowledged by the Examiner that upon allowance of the instant claimed precursor cells, claims 5-10 will be subject to rejoinder with claim 1-4. Accordingly, Applicants reserve the right to rejoin claims 5-10 upon allowance of the claimed precursor cells.

Claims 1-4 remain rejected.

Claim 1 has been amended. Support for these amendments is provided in the specification at page 6, line 12-17, Table 1 at page 7 and page 8, line 31 through page 11, line 12.

Reconsideration is respectfully requested in light of these amendment and the following remarks.

I. Objection to Claim 1

Claim 1 has been objected to for a number of informalities in claim language. This claim has been amended to remove this language. Withdrawal of this objection is respectfully requested.

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II. New Matter Rejection

Claim 1 has been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner suggests that amendments made to the claim in the last amendment are not disclosed in the instant specification.

Applicants disagree.

However, claim 1 has been amended to remove this language thus mooting this rejection.

Withdrawal of this rejection is respectfully requested.

III. Rejection of Claims 1-4 under 35 U.S.C. 112, first paragraph

The rejection of claims 1-4 under 35 U.S.C. 112, first paragraph for lack of enablement has been maintained. The Examiner suggests that the specification does not reasonably provide enablement for a pure homogeneous population of mammalian astrocyte restricted precursor cells, being CD44 immunoreactive and generating astrocytes but not oligodendrocytes, or a method of isolating the same from embryonic or fetal tissue, ES cell cultures or glial restricted precursor cells.

Applicants respectfully disagree.

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In an earnest effort to advance the prosecution of this case, Applicants have amended claim 1 to recite an isolated population of mammalian astrocyte restricted precursor cells which express CD44 and nestin and do not express A2B5 or E-NCAM. Support for this amendment can be found in the specification at:

page 6, line 12-17, wherein it is taught that the claimed astrocyte-restricted precursor cells express nestin and do not express A2B5;

Table 1 at page 7, wherein it is taught that the claimed astrocyte-restricted cells express CD44 and do not express A2B5; and

page 8, line 31 through page 11, line 12, wherein various methods for isolating the claimed cells from mixed populations of cells are set forth. In particular, at page 8, line 34 through page 9, line 28, methods are taught for isolating cells of the present invention from a mixed population of cells, e.g. neural tube using an antibody selection process for cells that express CD44 but do not express A2B5 or E-NCAM or vice versa. At page 9, line 29 through page 10, line 5, another method for isolating cells of the present invention is taught wherein A2B5+ cells are first removed and then CD44+ cells are isolated. Further,

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at page 10, line 15 through page 11, line 1, a method is taught for using human ES cell lines as a source of the isolated cells of the present invention. At page 11, line 6-12, it is taught that CD44+ cells of the ES cells were similar antigenically to cells for the present invention isolated from other sources. More details relating to these methodologies are set forth in Examples 4, 6, 7 and 8 of the instant application.

Further, at pages 11-15 methods are set forth for use of these cells.

Accordingly, the instant specification clearly discloses how to make and use the instant claimed invention as required to meet the enablement requirements of 35 U.S.C. 112, first paragraph. Further, teachings of Lodie et al., which are silent with respect to cells which express both nestin and CD44 and which do not express A2B5 or NCAM, are irrelevant to the instant claimed invention.

Withdrawal of this rejection is therefore respectfully requested.

For clarification of the record, Applicants respectfully submit that they are not requiring a person skilled in the art to "ignore the examples, and only consider parts of the specification, such as Table 1 as

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providing an enabling disclosure" as suggested by the Examiner. However, Applicants respectfully submit that those skilled in the art recognize that patent applications are oftentimes enabling for more than one invention, hence the reason for restriction practice. Further, Applicants believe that those skilled in the art recognize that cells referred to throughout the specification as astrocyte restricted precursor cells are different from cells referred to in the specification as human neuroepithelial precursor cells.

IV. Rejection of Claims 1-4 under 35 U.S.C. 102(e)

The rejection of claims 1-4 under 35 U.S.C. 102(e) as being anticipated by Carpenter (U.S. Patent 6,833,269) has been maintained.

Applicants respectfully traverse this rejection.

As discussed in Section III, *supra*, the claims have been amended in accordance with teachings at page 6, line 12-17, Table 1 at page 7 and page 8, line 31 through page 11, line 12 to recite an isolated population of mammalian astrocyte restricted precursor cells which express CD44 and nestin and do not express A2B5 or E-NCAM.

In contrast, cells of Carpenter express A2B5, NCAM or both. See teachings in Carpenter at, for example, col. 5,

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lines 54-62, col. 12, line 61 through col. 13, line 2, col. 13, lines 36 through 48, Example 1, Example 2, Table 3, Table 4, Table 6 and Figure 1.

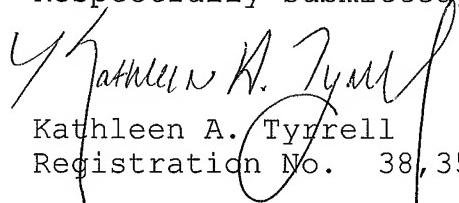
Accordingly, Carpenter does not teach all the elements of the claimed invention and therefore cannot anticipate the claimed invention. MPEP 2131.

Withdrawal of this rejection is respectfully requested.

V. Conclusion

Applicants believe that the foregoing comprises a full and complete response to the Office Action of record. Accordingly, favorable reconsideration and subsequent allowance of the pending claims is earnestly solicited.

Respectfully submitted,


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